

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER 94-042
(AMENDING ORDER NO. 92-022 & 92-127)

SITE CLEANUP REQUIREMENTS FOR:

UPLAND OPERABLE UNIT ANNEX
1990 BAY ROAD SITE
EAST PALO ALTO
SAN MATEO COUNTY

DISCHARGERS: RHONE-POULENC INC. AND
SANDOZ CROP PROTECTION CORPORATION

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. SITE DESCRIPTION Soil and ground water pollution exist on a Site in and adjacent to 1990 Bay Road, East Palo Alto (Figure 1). The Site is located about 2000 feet west of San Francisco Bay and about 4500 feet northwest of San Francisquito Creek, a tributary of the bay. Tidal and non-tidal marshes border the Site on the east and southeast. Non-tidal marshes are bounded by levees with a portion constructed before 1939 and another portion by 1955.
- 1.1 Operable Unit Designations The "Site" is defined to include areas reflecting arsenic concentrations in soil greater than 20 mg/kg. The total Site area lying within the 20 mg/kg contour covers approximately 13 acres. For purposes of remedy selection and remedial planning, the Site was separately divided into "Upland" and "Wetland" "Operable Units" (OU) within the meaning of section 300.430(a)(ii) of the National Contingency Plan (NCP), 40 C.F.R. Part 300 (Figure 2). Information submitted to the Board from investigations of the Wetland OU have led Board staff to conclude that a portion of the Wetland OU, located on the Torres and Pacific Gas & Electric (PG&E) properties, is more closely related to the Upland OU, and should now be included as part of the Upland OU. This portion is referred to as the Upland OU Annex (Figure 3).
- 1.1.1 Investigation of the Upland OU Annex An Ecological Assessment (EA) of the Wetland OU (still in draft form) began in 1991. In addition, an extensive soil sampling program similar to that used in the remedial design of the Upland OU has been completed on the Upland OU Annex, which is comprised of the affected portions of the Torres and Pacific Gas & Electric (PG&E) properties. Both of these studies have defined the nature and extent of contamination in the Upland OU Annex area.

The data from the soil sampling program indicate that the nature and extent of pollutants on the Torres property is very similar to that found in the Upland OU. Pollutants on the PG&E property also appear to be similar, but are generally at more shallow depths. The data confirms that these areas are most amenable to remediation using the measures selected for the Upland OU.

- 1.1.2 Upland OU Annex Wetlands Approximately three acres of non-tidal wetland areas exist within the two areas of the Upland OU Annex: the Non-Tidal Wetland (NTW), and the Call-Mac Wetland Area (CWA) (Figure 4). The NTW is an irregular strip of land located to the east of the PG&E electrical substation and the 1990 Bay Road Site, bounded on the north by Bay Road and a junkyard parking lot used by nearby auto wrecking yards. The CWA is composed of small patches of wetlands within the Call-Mac portion of the Torres Property, located to the south of the NTW. The eastern boundary of the NTW and CWA consists of a levee which separates the NTW and CWA from the adjacent tidal wetland. The low lying areas of the NTW and CWA adjacent to the levee receive runoff from Bay Road and all of the adjacent properties resulting in seasonal flooding of these low areas. The surface soils in these low areas contain elevated concentrations of arsenic (> 500 mg/kg) and a number of heavy metals. The ponded surface waters that collect in these low lying areas also have elevated concentrations of arsenic (> 1 mg/l) and several heavy metals as well as hydrocarbons, which are believed to be from releases or runoff from the nearby auto wrecking yards. The shallow groundwater in the southern portion of the NTW has elevated concentrations of arsenic. These data indicate localized areas of elevated trace element contamination and broad scale low-level contamination throughout the NTW and CWA.

The ecology of both the NTW and CWA is currently disturbed and of limited habitat value. The plant community structure is altered and is minimally utilized by birds and small mammals. There is no plant growth in the areas showing the highest concentrations of arsenic and heavy metals in soil. The plant community structure for the remainder of these areas is patchy, consisting largely of salt grass (*Distichlis spicata*), other grasses (e.g. *Polypogon sologatus*), sea-blight (*Suaeda californica*), alkali heath (*Frankenia grandifolia*) and fathen (*Atriplex patula*). During the dry season, plant cover is substantially reduced and utilization of these areas by wildlife is limited due to the lack of cover. On occasion California ground squirrels (*Citellus beecheyi*) and domestic dogs and cats have been observed in these areas. A field study was carried out in November 1991 to precisely characterize utilization of the NTW by small mammals during the wet season. In this study only two voles (*Microtus californicus*), one house mouse (*Mus musculus*) and one rat (*Rattus rattus*) were captured in 500 trap nights. The low number of organisms captured during the trapping effort reflect the minimal use of the NTW by small mammals and confirms the disturbed nature of this habitat. During the wet season low-lying areas of the NTW accumulate ponded water which attracts a number of avian species. Some 30-35 species of birds have been observed using these waters including shore birds, water fowl, songbirds, and raptors; however, the number of individuals observed was relatively small and most use of the habitat is sporadic or intermittent. The NTW

was used most consistently by two species, the black phoebes (*Sayornis nigricans*) and blackbirds (*Euphagus cyanocephalus*).

The NTW, due to its disturbed nature, is currently of limited ecological value and provides little wetlands habitat. The CWA is less utilized than the NTW, and is of even less ecological value.

- 1.1.3 Basis for Annexing the Torres and PG&E properties into the Upland OU Based on data collected during the EA and further investigations of the Torres and PG&E properties, Board staff believe it would be appropriate to apply the selected remedy for the Upland OU to the Upland OU Annex. This remedy has been proven to be implementable and protective of both human health and the environment. This action will allow for final remediation of the Torres and PG&E properties approximately 2 to 3 years before the remaining portions of the Wetland OU can be addressed.

The revised remedial design shall extend the remedy for the Upland OU into the Upland OU Annex using the same cleanup standards, technology and implementation techniques. Work is scheduled to begin in early spring of this year and to be completed before the winter rains; final capping may occur in the spring and summer of 1995.

The implementation of the amended remedy will eliminate approximately 3 acres of non-tidal wetland, mostly on the Pacific Gas and Electric (PG&E) property with a small amount on the Torres property. This acreage shall be mitigated at a ratio of three to one. Full details of the wetland mitigation plan shall be finalized in conjunction with the Wetland OU.

2. SITE HISTORY AND POLLUTION From 1926 to 1971, the Site was used for the production and formulation of sodium arsenite-based herbicides and pesticides. The sodium arsenite was formulated in an underground tank located on the premises. Some of the wastes from this process were disposed of in a shallow sludge pond located on the northwest portion of the Site. These and other practices related to this operation resulted in releases of arsenic and other metals, impacting soil and groundwater at the Site.
- 2.1 Regulatory Status In 1985, EPA proposed the Site for inclusion on the National Priorities List (NPL) under authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as later amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986. From 1987 to early 1991, the Site was under the lead agency jurisdiction of the Department of Toxic Substance Control (DTSC) pursuant to a Consent Order. In 1989, EPA formally removed the Site from consideration for the NPL under EPA's RCRA deferral policy. Lead agency status changed in January 1991, from DTSC to the Regional Board. The Regional Board is currently the lead agency overseeing investigation and cleanup of the Site.

2.2 Board Enforcement History The following Board Orders have applied to conditions at the Site:

- Cleanup and Abatement Order (CAO) 82-001, adopted April 15, 1982 (requiring investigation and abatement of the vertical and lateral extent of soil, surface and groundwater pollution);
- Order 82-002, adopted April 21, 1982 (allowing additional time for completion of tasks);
- Order 82-005, adopted October 13, 1982 (allowing additional time for completion of tasks);
- Order 83-012 adopted December 20, 1983 (allowing additional time for completion of tasks);
- Waste Discharge Requirements Order 85-67, adopted May 15, 1985 (rescinding previous Orders and requiring the dischargers to conduct further site characterization, construct monitoring well systems in the shallow and deep aquifers, and submit results of groundwater sample analyses);
- Administrative Civil Liability Complaint 87-001;
- Site Cleanup Requirements Order No. 91-016, adopted February 20, 1991 (rescinding and replacing existing order to reflect change in lead agency, to include tasks necessary to complete the FS/RAP process, to update groundwater monitoring and to ensure design of an adequate groundwater mitigation response for final site cleanup);
- Site Cleanup Requirements Order No. 91-095 adopted June 19, 1991 (amending Order No. 91-016 to add provisions for implementing an Early Action Removal Plan (EARP));
- Site Cleanup Requirements Order No. 92-022 adopted February 22, 1992, (containing the Remedial Action Plan for the Upland OU); and
- Site Cleanup Requirements Order No. 92-127 adopted October 21, 1992 (amending Order Nos. 92-022, 91-095 and 91-016, amending and consolidating due dates and requiring a revised sampling and analysis plan).

2.3 Selected Remedy, Upland OU Investigation of the Site has been ongoing. A feasibility study (FS) was submitted to the agencies in 1991. The remedy as described in the RAP and EPA ROD consists of the following measures for the Upland OU, much of which have already been successfully completed:

- Remove accessible soils containing concentrations greater than 5000 mg/kg arsenic. (This work was completed under Board Order No. 91-095.)

Excavated soil has been disposed of offsite at a Class I facility in accordance with state and federal land disposal regulations;

- Treat soils containing concentrations of 500 mg/kg or greater of arsenic by means of fixation technology, in order to reduce the mobility of contaminants. The treatability goal is 5 mg/l arsenic, 1 mg/l cadmium, 5 mg/l lead, .02 mg/l mercury, and 1 mg/l selenium as measured by the TCLP (This work has been completed for the Upland OU, as originally established);
- Record deed restrictions for properties where soil with greater than 70 mg/kg is left in-place, in conformance with Health and Safety Code Chapter 6.5, Article 11, § 25220-41, as modified by the Board in consultation with DTSC (This work has been completed for three properties);
- Remove soil containing arsenic concentrations above health-based criteria (70 mg/kg) from any properties which will not be deed restricted, and dispose at an appropriate facility in accordance with state and federal land disposal regulations (This work has been completed for the Upland OU, as originally established);
- Cap areas that contain surface soil with arsenic concentrations greater than 70 mg/kg, after grading to control ponding and maintain surface water drainage to the southeast (This work has been completed for the Upland OU, as originally established);
- Monitor arsenic concentrations in shallow and deep aquifers as provided by the approved Deep Aquifer Monitoring Plan (DAMP) (This work is ongoing);
- Install additional monitoring wells and continue the groundwater monitoring program for the Site, as set forth in the DAMP, the revised Sampling and Analysis Plan (SAP), and the Aquifer Characterization and Contingency Plan (ACCP). After the implementation of the FS/RAP for the Wetland OU, install a slurry wall to prevent outward migration of arsenic concentrations exceeding 0.05 mg/l in shallow groundwater zone (pursuant to Order 92-022, the date for slurry wall implementation shall be specified in the Wetland FS); and
- Dewatering within the slurry wall as necessary to maintain an inward hydraulic gradient; treat and discharge extracted groundwater as necessary under an NPDES permit (Pursuant to Order 92-022, the date for slurry wall dewatering and treatment and discharge of extracted groundwater shall be specified in the Wetland FS).

3. SCOPE OF THIS ORDER This Order annexes the affected portions of the Torres and PG&E properties into the Upland OU, and applies the selected final remedy for

the Upland OU established by Site Cleanup Requirements Order 92-022 as amended by Order 92-127 to this annexed area, except as modified below.

4. EXPLANATION OF SIGNIFICANT DIFFERENCE The annexation of affected portions of the Torres and PG&E properties into the Upland OU represents a post-RAP/ROD significant change. An Explanation of Significant Difference (ESD) between the RAP/ROD selected is appropriate to describe the modification of the OU boundaries. Section 117(c) of CERCLA, 42 U.S.C.A. § 9617(c), and the National Contingency Plan, 40 C.F.R. § 300.435(a) (2) (i), require preparation and publication of an ESD when a significant change is made from the originally selected remedy. This Order is intended to constitute and meet the requirements of an ESD.
5. ADMINISTRATIVE RECORD This Order will become part of the administrative record file. The administrative record is located at the Regional Board offices, 2101 Webster Street, Suite 500, Oakland, California 94612. Additional copies of portions of the administrative record is located in the East Palo Alto Public Library, 2415 University Avenue, East Palo Alto, California 94303. In addition, a notice of availability and brief description of this Order will be published in a local newspaper of general circulation.
6. LEAD AGENCY The Board has been acting as the lead agency pursuant to a stipulation between RPI, DTSC and the Board dated February 1991, vacating the August 1987 Consent Order for the Site, and to various interagency agreements. Pursuant to the South Bay Multi-Site Cooperative Agreement and the South Bay Ground Water Contamination Enforcement Agreement, entered into on May 2, 1985 (as subsequently amended) by the Board, EPA and DTSC, the Board has been acting as the lead agency for the Site. The Board will continue as appropriate to regulate the dischargers' remediation and administer enforcement actions in accordance with CERCLA as amended by SARA, the California Water Code, Health and Safety Code, and regulations adopted thereunder. Pursuant to CERCLA sections 104 and 122, 42 U.S.C.A. §§ 9604 and 9622, EPA will allow Rhone-Poulenc to conduct the remediation described herein.
7. COST RECOVERY The dischargers have been advised that the Regional Board may enter into cost recovery pursuant to Section 13304 of the California Water Code. This would entitle the Board to seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of wastes and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.
8. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the California Environmental Quality Act, Cal. Pub. Res. Code §§ 21000 *et seq.*, pursuant to section 15321 of the Guidelines, Title 14, California Code of Regulations.
9. The Board has notified the dischargers and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Require-

ments for the discharge and has provided them with the opportunity for a public hearing and an opportunity to submit their written views and recommendations.

10. The Board, in a public meeting, heard and considered all comments pertaining to the RAP and its extension to the Upland OU Annex. The EPA and the DTSC and other appropriate agencies have been consulted regarding the requirements of this Order, agree with them, and further have agreed to provide comments on the reports and actions of Sandoz and/or RPI to the Board and to Sandoz and/or RPI in a timely manner. The DTSC has further agreed not to take any action without prior consultation with the Board, unless immediate action is necessary to protect human health or the environment; if an emergency precludes consultation prior to implementation of any action, consultation shall take place as soon as circumstances allow. The Board has consulted the National Oceanic and Atmospheric Administration, the U.S. Fish & Wildlife Service, the U.S. Army Corps of Engineers, the Bay Area Air Quality Management District, the California Fish & Game Department, the San Francisco Bay Conservation and Development Commission, the County of San Mateo and the City of East Palo Alto prior to issuing this Order. The Board shall seek timely comments on all reports and actions relevant to this Order from these and all other interested federal and state agencies, and shall consider those comments.
11. This Order is subject to, and shall become effective only upon receipt by the Executive Officer of the written concurrence of the EPA stating the Order:
 - (1) constitutes an Explanation of Significant Differences pursuant to the National Contingency Plan, 40 CFR Section 300.435 (c) (2);
 - (2) operates to extend the provisions of the Record of Decision to the Upland OU Annex; and,
 - (3) contemplates removal and remedial action for which no permit is required pursuant to Section 121 (e) of CERCLA

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code and Section 25356.1 of the California Health and Safety Code, that the dischargers, their agents, successors and assigns, shall cleanup and abate the effects described in the findings above and in Board Orders 92-022, 92-127 and as amended below:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.
2. Significant migration of pollutants through surface or subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. CLEANUP SPECIFICATIONS

1. The dischargers shall not cause or permit, nor threaten to cause or permit, waste to be discharged or deposited where it is or probably will be discharged to waters of the State and create or threaten to create a condition of pollution or nuisance as defined in Section 13050(m) of the California Water Code, except as authorized by the terms of this Order.
2. The cleanup standards for source-area soil in the Upland OU Annex shall be consistent with those set forth in Site Cleanup Requirements Order 92-022 for the Upland OU. All accessible soil containing arsenic concentrations in excess of 5000 mg/kg, therefore, shall be excavated and disposed offsite. Soil containing arsenic concentrations greater than 500 mg/kg will be treated by means of fixation technology. Surface soil containing arsenic concentrations greater than 70 mg/kg shall be capped and deed restrictions applied, except where otherwise excavated and disposed. These levels are health-based and protect human health and the environment. A program of continued ground-water monitoring will monitor the status of pollutants left in the soil.

C. PROVISIONS

1. The dischargers shall comply with the Prohibitions and Specifications set forth in Site Cleanup Requirements Order 92-022 as amended by Order 92-127 and as described above, in accordance with the following task and time schedule:

Site Cleanup Requirements Orders 92-022 and 92-127 are amended by addition of the following:

- a. **TASK: REMEDIAL DESIGN REPORT ADDENDUM**
DUE DATE: March 16, 1994

Description: RPI shall submit a technical report acceptable to the Executive Officer including soil testing results for the Upland OU Annex and briefly describing the application of design plans for the selected remedy for the Upland OU to the Upland OU Annex.

- b. **TASK: IMPLEMENTATION OF UPLAND OU ANNEX REMEDIATION**
DUE DATE: Sixty days after capping is completed, or August 1, 1995, whichever is sooner.

Description: RPI shall submit a technical report acceptable to the Executive Officer documenting completion of the tasks identified in the technical report submitted for Task (a).

- c. **TASK: WETLANDS OFFSET**
DUE DATE: Due in conjunction with Wetland OU FS/RAP

Description: RPI shall submit a technical report acceptable to the Executive Officer and to the appropriate federal and state agencies providing for an offset for any wetlands eliminated due to implementation of the remedy for the Upland OU Annex, at a ratio of three acres of wetlands created, enhanced or restored for every acre eliminated in the Upland OU Annex. See paragraph 1.1.3. This report may be included as a part of the Wetland OU FS/RAP, and the offset may be incorporated with any offset for wetlands in the Wetland OU, if an offset for the Wetland OU is deemed necessary as part of the Wetland OU FS/RAP.

- d. **TASK: PROPOSED DEED RESTRICTIONS**
DUE DATE: Due in conjunction with Implementation of Upland OU Annex Remediation Report.

Description: RPI shall submit proposed deed restrictions acceptable to the Executive Officer for each individual property in the Upland Operable Unit Annex containing soils with arsenic concentrations greater than 70 mg/kg where removal of such soils will not occur.

- e. **TASK: DEED RESTRICTIONS**
DUE DATE: Sixty days after approval by Executive Officer

Description: RPI shall submit to the Board copies of notarized and properly recorded deed restriction documents for properties in the Upland Operable Unit Annex where removal of soil with more than 70 mg/kg of arsenic does not occur within sixty days after the proposed form for each individual property is approved and executed by the Executive Officer.

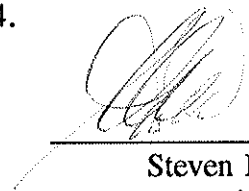
2. RPI may, by written request, seek a modification or revision of the requirements of this Order or any program or plan submitted pursuant to this Order at any time. This Order and any applicable program, plan or schedule may be modified, terminated or revised by the Board.
3. If the dischargers may be delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the dischargers shall promptly notify the Executive Officer. If, for any reason, RPI is unable to perform any activity or submit any document within the time required under this Order, RPI may make a written request for a specified extension of time. The extension request shall include a justification for the delay, and shall be submitted in advance of the date on which the activity is to be performed or

the document is due. The Board staff may propose an amendment to the Order and bring the matter to the Board for consideration.

4. Nothing in this Order is intended or shall be construed to limit or preclude any right RPI has or may have to seek administrative and/or judicial review of any orders or determinations of the Board and/or its staff.
5. All technical plans, specifications, reports and documents shall be signed by or stamped with the seal of a registered geologist, registered civil engineer, or certified engineering geologist.
6. All samples shall be analyzed by State certified laboratories, or laboratories accepted by the Board, using approved EPA methods for the type of analysis to be performed. All laboratories or the consultant shall maintain quality assurance/ quality control records for Board review for a period of six years.
7. The dischargers shall maintain in good working order, and operate in the normal standard of care, any facility or control system installed to achieve compliance with the requirements of this Order.
8. Copies of all correspondence, reports, and documents pertaining to compliance with the requirements of this Order shall be provided to the following agencies:
 - a. Hetch Hetchy Water District
 - b. San Mateo County Health Department
 - c. City of East Palo Alto
 - d. California Environmental Protection Agency, Department of Toxic Substances Control
 - e. U.S. EPA, Region IX (H-6-3)
9. The dischargers shall permit, within the scope of each of their authorities, the Board or its authorized representative, in accordance with Section 13267 (c) of the California Water Code:
 - a. Entry upon dischargers' premises in which any pollution sources exist, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any monitoring equipment or methodology implemented in response to this Order.

- d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.
10. If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any waters of the State, the dischargers shall report such a discharge to this Board, at (510) 286-1255 on weekdays during office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Board within five (5) working days and shall contain information relative to: the nature of the waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, a schedule of these activities, and persons notified.
 11. Except as superseded by adoption of this Order with respect to the Upland OU Annex, all findings, prohibitions, specifications and provisions of Site Cleanup Requirements Orders 92-022 (as amended by 92-027) shall remain in effect.
 12. Any provisions of this Order substantially identical to provisions which the State Water Board or a court of law determines to be in excess of the Board's legal authority shall have no force or effect in this Order.
 13. This Order is intended to be the primary regulating document by which site cleanup for the Upland OU Annex shall proceed with the Board as lead agency.
 14. The Board will review this Order periodically and may revise the requirements when necessary.
 15. The dischargers have been advised that the Regional Board may enter into cost recovery pursuant to Section 13304 of the California Water Code. This would entitle the Board to seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of wastes and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on March 16, 1994.



Steven R. Ritchie
Executive Officer